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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/371,760 08/10/99 FUNAKI

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EXAMINER

TM02/0817

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NOLAN, D.

ART UNIT

PAPER NUMBER

2641

DATE MAILED:

08/17/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/371,760

Applicant(s)

FUNAKI, TOMOYUKI

Examiner

Daniel A. Nolan

Art Unit

2641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12, 13 and 15-21 is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 10 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2641

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

2. The response filed 06 August 2001 was entered to the following effect:
 - The specification was changed as indicated and all objections and corresponding 35 USC 112 rejections have been withdrawn.
 - The indicated changes were applied to the claims, and claims 2 & 3 were cancelled.

Response to Arguments

3. Applicant's arguments filed 06 August 2001 have been fully considered but they are not persuasive.
4. Regarding claim 1 and in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *manner for setting the parameters*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

Art Unit: 2641

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Regarding claim 6 and associated features, it would have been obvious to a person of ordinary skill in the art of signal processing at the time of the invention to correlate notes with respect to some predetermined scale because to do otherwise would be to produce random sounds having no significance, which the prior art of reference does not do. As disclosed in column 24, the device has the flexibility to provide the claimed scale designation in question, in that it may be arranged to identify tones in other sequences.

In further response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

Kohler

6. Claims 1-5, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohler (U.S. Patent 6,140,568).

Art Unit: 2641

7. Regarding claims 1, 11 and 14, Kohler claims in his claim 1 the specific features of *receiving signals, extracting characteristics* (decomposing) *and setting parameters*.

With regard to the feature of *matching volume levels*, Kohler employs a MIDI converter to process *volume* (column 3 line 62) and further uses that MIDI to set *thresholds* (column 5 lines 10-12). While Kohler does not specifically mention setting a *volume threshold* because he qualifies the above referenced disclosure as examples (bottom of column 4), it would have been obvious to a person of ordinary skill in the art of signal processing at the time of the invention to put the volume threshold detection mechanism at that point to start, continue and stop processing as shown by Kohler in figures 9 & 10.

Regarding the extraction of character with use of filtering, Kohler describes filtering out non-pitched content (column 3 lines 52-55). While not specifying upper and lower pitch limits, it would have been obvious to a person of ordinary skill in the art of signal processing at the time of the invention to establish limits beyond which and less than which a signal would be considered.

8. Regarding claim 4, the claim is set forth with the same limitations as claim 1. Kohler represents a *display* in figure 2 for presenting information to the user/operator (column 10 line 41).

Art Unit: 2641

9. Regarding claim 5, the claim is set forth with the same limitations as claim 4.

Kohler claims direct control of the parameters (3rd feature of claim 30) enabled by the keyboard (column 10 line 26).

Kohler & Humphrey⁷⁵ et al

10. Claims 6-10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohler in view of Humphrey⁷⁵ et al (U.S. Patent 3,894,186).

11. Regarding claim 6, Kohler discloses the features of *Input* (addressed in response to claim 1) and *pitch extracting* (*ibid.* responding to claim 3).

Kohler further discloses the means to *determine notes* (column 3 line 47) using *pitch* with the recognizer (item 400, figure 1) in response to prior attempts (last paragraph of column 1 through column 2 line 35) more successfully (in figure 16 items 421284-421286).

Kohler does not disclose a *scale designation section* to correlate the above note determination with the values of a scale. Humphrey⁷⁵ et al explicitly assigns notes by activation of a visual device in reaction to pitch values (last paragraph of column 9). Because Kohler, Humphrey⁷⁵ et al and the immediate invention strive to present audio signals in visual form, it would have been obvious to a person of ordinary skill in the art of signal processing at the time of the invention to employ a well known coding scheme such as musical notation and its attendant scale rather than to attempt to train operators in technical representation.

Art Unit: 2641

12. Regarding claim 7, the claim is set forth with the same features as claim 6. While Kohler does not deal with presentation using a scale and so would not be expected to address the use of different scales, Humphrey⁷⁵ et al teaches the characteristics of the scales (in column 4 lines 42-45) as being either *diatonic* or *chromatic* of 7- or 12-tones, respectively.

13. Regarding claim 8, the claim is set forth with the same features as claim 7. While Kohler does not deal with presentation using a chromatic scale and so would not address the matter of assigning *diatonic* or *intermediate* notes. Humphrey⁷⁵ et al recognizes the possibility of implementing either scale (starting at the 6th line from the end of column 20 and in the 1st paragraph of column 24).

14. Regarding claim 9, the claim is set forth with the same features as claim 8. While Kohler does not deal with presentation on a musical scale and so would not address the matter of assigning *diatonic* or *intermediate* notes. Humphrey⁷⁵ et al recognizes that different representations could be used, changing the number of output or display elements (column 24 2nd paragraph). Further, it would have been obvious to a person of ordinary skill in signal processing at the time of the invention that dealing with a signal with finite limits increasing the number of elements will narrow the intervals between them, or pitch extremes, and reducing the number of division will broaden the pitch limits.

Art Unit: 2641

15. Regarding claim 10, the claim is set forth with the same features as claim 6. Kohler teaches that *note length* and specific *minimums* (column 21 lines 29-32) validate a note. This *minimum note length* corresponds to the *unit* of the claim as being the lowest amount that is considered. It would have been obvious to a person of ordinary skill in signal processing at the time of the invention that the predominant basis for established equivalence scales and measures is the smallest recognizable part.

Allowable Subject Matter

16. Claims 12, 13, and 15-21 are allowed.

17. The following is a statement of reasons for the indication of allowable subject matter:

- Regarding claims 11, 2, 15, 17, 19 and 20; the features of *input*, *pitch extracting* and the means to *determine notes* using *pitch* are the same as those for claim 6 and 3, the ability to use different scales to represent processing is neither anticipated nor has it been found in an obvious combination in the prior art of record.
- Claims 13, 16, 18 and 21 depend on claims which have been found to be allowable and so do they become allowable as a result.

Art Unit: 2641

18. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel A. Nolan whose telephone number is (703) 305-1368. The examiner can normally be reached on Monday, Tuesday, Thursday & Friday, between the hours of 6:30 AM and 5:00 PM.

Art Unit: 2641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached at (703) 305-6137.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6306 for regular communications and (703) 308-6296 for After Final communications (for informal or draft communications, please label "PROPOSED" or "DRAFT"; for formal communications, please label "EXPEDITED PROCEDURE").

Any response to this action may be faxed according to the above instructions, or mailed to:

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or hand-delivered to:

Crystal Park 2,
2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at phone (703) 305-4700.

(Note that as of October 2, 2000 the former Technology Center 2700 has been split into two centers (TC 2100 and TC 2600), and former Art Unit 2741 has been designated as **Art Unit 2641**, which new AU number should be used in all future correspondence.)

dan

August 13, 2001

Daniel A. Nolan
Examiner
Art Unit 2641


Richmond Dorvil
Primary Examiner